

ENGINEERING PRACTICE STUDY

TITLE: MIL-DTL-5757 RELAYS, ELECTROMAGNETIC, GENERAL SPECIFICATION FOR; 3.3 Materials.to
examine prohibition of silicone and silicone compound.

11 August 2026

STUDY PROJECT (SEE ATTACHMENT 1)

FINAL REPORT

Study Conducted By DLA Land and Maritime

Project Number: 5945-2026-032

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ATTACH 1

- I. **OBJECTIVES:** This engineering practice study is being conducted to examine MIL-DTL-5757; 3.3 Materials to determine impact of using silicone or silicone compound to affix two hermetically sealed relays - MIL-PRF-39016/6.
- II. **BACKGROUND:** At this time, MIL-DTL-5757; 3.3 Materials prohibit the use of silicone and silicone compound, however manufacture(s) reported use of silicone to secure the MIL-PRF-39016 relays.
- III. **RESULTS:** Update the sentence, 3.3 Materials. Materials shall be as specified herein. However, when a definite material is not specified, a material shall be used which will enable the relays to meet the performance requirements of this specification. Materials used externally shall be fungus inert, self extinguishing, and shall not support combustion, nor give off noxious gases in harmful quantities. Materials used internally shall not give off gases in quantities sufficient to cause explosion of sealed enclosures, cause contamination of the contacts or other parts of the relay that will adversely affect life or reliability, or form current carrying tracks when subjected to any of the tests specified herein. Cotton-filled or wood-flour-filled materials shall not be used. Ceramic used for external surfaces shall be glazed. The use of silicone (see 6.8) or silicone compounds for any purpose is prohibited. The selection of materials shall be such as to provide maximum shelf life. Acceptance or approval of any constituent material shall not be construed as a guaranty of the acceptance of the finished product.

FROM: The use of silicone (see 6.8) or silicone compounds for any purpose is prohibited.

TO: The use of silicone (within the electronic assembly) for any purpose is prohibited. The use of silicone elastomer (as defined by manufacturers' Material Data Sheet) is acceptable to affix hermetically sealed MIL-PRF-39016 relays fulfilling all seal inspection requirements without waiver or deviation.

Rationale 1: Manufacture(s) report current use of silicone elastomers for this purpose and state the practice does not negatively impact the product.

Rationale 2: Provide awareness of current manufacturing practices.

- IV. **CONCLUSIONS:** MIL-DTL-5757 was reviewed, and a DLA Land and Maritime position determined the document shall be modified to reflect stated sentences
- V. **RECOMMENDATIONS:** Update MIL-DTL-5757; 3.3 as stated in Results.